

REMARKS

The claims now pending in the Application are claims 39-40, 42, 46-49, 51-60, and 115 through 117. Claims 39 and 51-55 have been amended. Claim 39 has been amended to incorporate the features of objected to claim 50 and intervening claim 41. In light of these amendments, claims 41 and 50 have been cancelled. Claim 39 and the other claims depending therefrom should thus be allowable. Claims 51-54 have been amended to change their dependency in light of the amendments made to claim 39 and the cancellation of claim 41. Objected to claim 55 has been amended to incorporate the structural features of independent claim 39 and to recite that the first and second electrodes are collection electrodes. Claim 55 and the other claims depending therefrom should also be allowable.

Claims 115 through 117 are newly added. Claim 115 recites the step of applying an AC field between the first and second collection electrodes so as to hold the charged biological materials over the array. Support for this feature can be found on page 17, line 37 to page 18, line 2 of Applicants' specification. Claim 116 recites the feature wherein when the second collection electrode is placed attractive, the first collection electrode is placed repulsive. Support for this claimed feature can be found, for example, on page 9, lines 18-27 of Applicants' specification. Claim 117 recites the feature of placing the second collection electrode repulsive and placing the first collection electrode attractive, thereby concentrating charged biological species on the first collection electrode. Support for the claimed feature of repeatedly moving the biological material over the array can be found, for example, on page 18, lines 2-4 and on page 9, lines 18-27 of Applicants' specification.

In light of the amendments made to the claims, the § 103(a) rejections based on Ribi are now moot. The presently pending claims are allowable over the art of record. A Notice of Allowability is respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please cancel claims 41, 43-45, and 50 without prejudice.

Please amend claims 39 and 51-55 as follows:

39. (Amended) An electronic device for performing biological operations comprising:

a support substrate,

an array of microlocations disposed on the substrate, the array being formed within a region,

a first collection electrode disposed on the substrate adjacent the array, and

a second collection electrode disposed on the substrate, adjacent the array,

and at least in part on the opposite side of the region; and

a flow cell, the flow cell adapted to be supported on the substrate and to define a footprint of the flow cell wherein the area of the first collection electrode and second collection electrode in proportion to the footprint of the flow cell is at least 40%.

51. (Amended) The electronic device for performing active biological operations of claim 44 39 wherein the area of the first collection electrode and second collection electrodes in proportion to the footprint of the flow cell is at least 50%.

52. (Amended) The electronic device for performing active biological operations of claim 44 39 wherein the area of the first collection electrode and second collection electrodes in proportion to the footprint of the flow cell is at least 60%.

53. (Amended) The electronic device for performing active biological operations of claim 44 39 wherein the flow cell includes an inlet.

54. (Amended) The electronic device for performing active biological operations of claim 44 39 wherein the flow cell includes an outlet.

55. (Amended) A method for analysis of a biological sample, utilizing ~~the~~ an electronic device for performing active biological operations, the device including a support substrate, an array of microlocations disposed on the substrate, the array being formed within a region, a first collection electrode disposed on the substrate adjacent the array, and a second collection electrode disposed on the substrate, adjacent the array, and at least in part on the opposite side of the region of claim 39, the method comprising the steps of:

providing the sample to the device,

placing the first ~~concentration~~ collection electrode attractive for desired charged biological materials, thereby concentrating charged biological materials on the ~~concentration~~ collection electrode,

placing the second ~~concentration~~ collection electrode attractive for the desired charged biological materials, relative to the first ~~concentration~~ collection electrode, thereby transporting said charged biological materials from the first ~~concentration~~

collection electrode towards the second ~~concentration~~ collection electrode, and over at least a portion of said array of microlocations disposed on the substrate, whereby interaction between the charged biological materials and the array occurs.

Please add the following new claims:

--115. (New) The method for analysis of a biological sample according to claim 55 further comprising the step of applying an AC field between the first and second collection electrodes so as to hold the charged biological materials over the array.

116. (New) The method for analysis of a biological sample according to claim 55, wherein when the second collection electrode is placed attractive, the first collection electrode is placed repulsive.

117. (New) The method for analysis of a biological sample according to claim 55 further comprising the additional steps of placing the second collection electrode repulsive and placing the first collection electrode attractive, thereby concentrating charged biological species on the first collection electrode.--